

PROPOSED DECISION

Agenda ID #14986 (Rev. 3)

Quasi-legislative

10/27/2016 Item #_____

Decision **PROPOSED DECISION OF COMMISSIONER SANDOVAL**
(Mailed 6/14/2016)

BEFORE THE PUBLIC UTILITIES COMMISSION OF THE STATE OF CALIFORNIA

Order Instituting Rulemaking into Policies
to Promote a Partnership Framework
between Energy Investor Owned Utilities
and the Water Sector to Promote Water-
Energy Nexus Programs.

Rulemaking 13-12-011
(Filed December 19, 2013)

DECISION APPROVING PILOTS FOR MATINEE PRICING

Table of Contents

Title	Page
DECISION APPROVING PILOTS FOR MATINEE PRICING.....	1
Summary	2
1. Background.....	2
1.1. The Water-Energy Nexus.....	2
1.2. Energy Matinee Pricing Tariff to Promote Renewable and Low-Water-Using Energy Generation and Help Balance the Grid.....	5
1.3. Energy Matinee Pricing Tariff Proposals and Comments	10
2. The Pilot Proposals	13
2.1. Pacific Gas and Electric Company	13
2.1.1. Rate Attributes	15
2.2. Southern California Edison Company	16
2.2.1. Rate Attributes	16
2.3. San Diego Gas & Electric Company	17
2.3.1. Rate Attributes	17
3. Discussion and Analysis.....	17
3.1. Approval of the Three Proposed Pilots	17
3.2. Demand Charges.....	22
3.3. Study Duration Participation Levels and Other Parameters.....	25
3.4. Budgets and Cost Recovery	30
3.5. Evaluation Approach	32
3.5.1. Specific Metrics from the Next Steps ACR.....	34
3.5.2. Matinee Pricing Reports.....	35
3.6. Steps for Pilot Approval.....	36
4. California Association of Small and Multi-Jurisdictional Utilities	38
5. Safety Considerations	39
6. Categorization and Need for Hearing.....	40
7. Comments on Proposed Decision	40
8. Assignment of Proceeding	40
Findings of Fact	40
Conclusions of Law	42
ORDER	43

DECISION APPROVING PILOTS FOR MATINEE PRICING**Summary**

This decision approves pilots by Pacific Gas and Electric Company, Southern California Edison Company and San Diego Gas & Electric Company to test the concept of “Matinee Rates” (i.e., special midday price discounts) as a means to reduce both energy and water use at high impact times. This decision allows the three utilities to each establish a memorandum account to track pilot program costs and seek recovery of these costs in future proceedings.

This proceeding remains open to address updates to the water-energy cost effectiveness tool, the communications-water-energy nexus, and other issues in the proceeding scope.

1. Background**1.1. The Water-Energy Nexus**

California is undergoing an unprecedented drought, replete with grim implications for California’s economy in general, and for energy supply, food supply and farm-related employment in particular. On January 17, 2014, Governor Brown declared a Drought State of Emergency,¹ in which the Governor observed that “the magnitude of the severe drought conditions presents threats beyond the control of the services, personnel, equipment and facilities of any single local government.” On April 25, 2014, the Governor declared a continued state of emergency,² and on April, 1, 2015, the Governor issued an Executive

¹ <http://gov.ca.gov/news.php?id=18368>.

² <http://gov.ca.gov/news.php?id=18496>.

Order mandating substantial water reductions throughout the state in light of the ongoing drought emergency.³ On May 9, 2016, Governor Brown issued Executive Order B-37-16 “Making Water Conservation a California Way of Life.” The Governor’s 2016 Executive Order cited “increasing long-term water conservation among Californians, improving water use efficiency within the state’s communities and agricultural production” as critical to improving California’s resilience to drought and climate change.

Improving water use efficiency requires actions to address the water/energy nexus. “The use of water and the use of energy are intricately intertwined. The extraction, treatment, distribution, and use of water followed by the collection and treatment of wastewater require a lot of energy; likewise, the production of energy – particularly hydroelectric and thermometric power generation – requires a lot of water.”⁴

This rulemaking was opened in 2013 with the goal of developing “a partnership framework between investor-owned energy utilities and the water sector – both privately owned water utilities regulated by the Commission and public water and wastewater agencies – to co-fund programs that reduce energy consumption by the water sector in supplying, conveying, treating, and distributing water.”⁵ The proceeding is addressing a variety of programs and issues in concurrent but separate tracks.

The Amended Scoping Memorandum specifically states that this proceeding will explore “what immediate-term, mid-term, and long-term actions

³ http://gov.ca.gov/docs/4.1.15_Executive_Order.pdf.

⁴ <https://www3.epa.gov/region9/waterinfrastructure/waterenergy.html>

⁵ Order Instituting Rulemaking (OIR) at 2.

the Commission can take to address the water-energy nexus and promote conservation in light of both the current drought, the imperative of saving water [sic] and using energy, and to address current and future climate challenges.”⁶

For the past decade this Commission and other state and federal agencies have been exploring how to ensure that both the direct⁷ and indirect⁸ impacts of this interdependency are taken into consideration when making investment decisions in both energy and water resources. Decision (D.) 15-09-023 adopted a water-energy calculator that quantifies how much electric energy it takes to move and treat water, and calculates the associated indirect energy savings. We also adopted an avoided water capacity cost model that calculates an avoided water system capacity cost associated with water savings, which is a required input into the water-energy calculator. In D.16-06-010, the Commission adopted pilots to test shared use of energy utility advanced metering infrastructure (AMI) communications network with water agencies to save water and the embedded energy in water. The energy/water AMI pilots will explore technical issues associated with sharing the AMI infrastructure, and the effect of access to the AMI networks to improve identification of and prompt action to stem leaks and other water and energy savings measures.

In light of the challenges facing local water suppliers, and the risk of oversupply of renewable energy during certain times of the year, the Legislature

⁶ Amended Scoping Memo at 2.

⁷ Energy savings in this context generally refers to site specific energy use reductions achieved as a result of water savings, including reducing the use of energy to heat water for end-use purposes, and any on-site energy associated with water use and consumption.

⁸ Indirect energy savings in this context generally refers to upstream energy savings associated with production, conveyance, treatment, and delivery of water to an end-user.

recently approved Senate Bill (SB) 919 (Hertzberg).⁹ SB 919 directs the Commission to address “the oversupply of renewable energy resources” by creating a program, such as a new tariff, targeted to “facilities that create or augment local water supplies.” The customers identified by SB 919 are eligible to participate in the matinee pricing pilots. Thus, the, the pilots will provide an immediate opportunity for these customers to take advantage of a tariff designed to have lower costs during periods of time that are at risk for renewable energy oversupply. As of August 30, 2016, SB 919 had been enrolled and presented to the Governor, but had not yet been acted on by the Governor.

1.2. Energy Matinee Pricing Tariff to Promote Renewable and Low-Water-Using Energy Generation and Help Balance the Grid

This track, which will examine Energy Matinee Rates to encourage water and energy use efficiency, was opened by the December 2, 2015 Assigned Commissioner Ruling (Matinee Pricing ACR) seeking energy matinee pricing

⁹ The relevant language of SB 919 provides:

(a) Before January 1, 2018, the commission, in consultation with the Independent System Operator, shall address the oversupply of renewable energy resources through a tariff or other economic incentive, such as time-variant rates, demand response, and dynamic pricing, for the electricity purchased by customers operating facilities that create or augment local water supplies to apply at the option of the customer, to reduce the cost of electricity to those facilities.

(b) The commission may consider implementing subdivision (a) in an existing proceeding.

(c) For purposes of this section, “facilities that create or augment local water supplies” include desalination, brackish water desalting, water recycling, water reuse, groundwater treatment and remediation activities, stormwater and dry weather runoff capture and use, and groundwater recharge facilities.

tariff proposals. In light of the state of emergency caused by California's drought, the ACR directed Pacific Gas and Electric Company (PG&E), Southern California Edison Company (SCE) and San Diego Gas & Electric Company (SDG&E) to each develop a tariff that would encourage a shift in energy use by commercial, industrial, and agricultural users to alternative times of the day when abundant renewable and low-water-using energy are produced at high (and growing) quantities.¹⁰

The purpose of these tariffs is to pilot and evaluate the effect of tariffs designed to allow for the shift of energy use by commercial, industrial, and agricultural users to midday when abundant renewable and low-water-using energy are produced at high (and growing) quantities. We accomplish this shift by directly signaling to consumers with an Energy Matinee Pricing Tariff the times when low-water-using energy is more abundant, and demand is currently low. Theaters have long used "Matinee Pricing" to attract patrons to fill theater seats midday. An Energy Matinee Pricing Tariff addresses the water-energy nexus by better aligning abundant midday energy supply with commercial, industrial, and agricultural electric demand.

The drought affected all sectors of California including energy generation. In 2015, the California Energy Commission (CEC) completed its streamlined regulatory processes to ensure that electricity generating facilities that lose access to water resources will be assisted rapidly.¹¹ Loss of water resources may affect a facility's electricity generating capability. In 2014, the CEC had to find

¹⁰ Matinee Pricing ACR at 2-3.

¹¹ For more information: http://www.energy.ca.gov/business_meetings/2015_packets/2015-05-13/Item_03_Alternative_Water_Supply_for_Power_Plants/

emergency water supplies for an electricity generating facility in Colusa, California when the plant lost access to water from its designated portal due to the drought. First, the CEC ensured access of trucked water to the facility and then ensured that a special water pipeline provided water to that facility on an ongoing basis so that the facility could continue to operate and produce electricity. Although there is no immediate expectation for action of this nature, our sister agency is prepared for that next electricity generation water-related emergency.

In other words, the purpose of this track is to develop and test tariff structures that will use price signals to encourage customers to shift usage to use energy and water more efficiently in two specific ways:

1. Shift use *to* times when there is abundant low-water-using energy;¹² and,
2. Shift use *from* times when energy availability is low and electric generation is water-intensive.

The Matinee Pricing ACR required the utilities to submit proposals for pilot opt-in Matinee Rates for commercial, industrial, and agricultural customers, and set specific parameters for the proposals.¹³

The Matinee Pricing ACR explains that the increase in renewable resources during midday at certain times during the year has the potential to create and exacerbate an imbalance between supply and demand, when generation resources are abundant with not enough corresponding demand (i.e., load). The imbalance could cause the California Independent System Operator (CAISO) to

¹² Matinee Pricing ACR at 3.

¹³ Matinee Pricing ACR at 18.

manually curtail renewable and natural gas-fueled generators when price signals are not sufficient to correct the oversupply and to maintain a balanced grid.¹⁴ The impact of this imbalance has been noticeable during the last two spring seasons when over-generation has led to curtailment of renewables on several occasions. CAISO reported in 2015 the “ISO had to curtail wind and solar for reliability reasons four times this past spring representing over 1,700 megawatts (MW) with 1,100 MW of that amount occurring during the morning hours of April 27.”¹⁵ This phase of the water-energy nexus rulemaking was opened to examine how rate design can create incentives to balance energy supply and demand, save embedded water in energy, and reduce energy over-generation periods that waste energy and water.

Today, balancing the energy system’s evening load ramp is accomplished, in large part, by turning on fossil-fueled peaker plants, leaving on baseload generation plants, most of which are fossil-fueled, and by strategies to reduce demand such as energy efficiency and demand response. Fossil-fueled electric generation often requires large amounts of water to cool the facilities, totaling many hundreds of thousands to millions of gallons of water per day, per generation facility.¹⁶

Current tariffs that define peak pricing for commercial, industrial, and agricultural customers are not well aligned with times of abundant renewable

¹⁴ Matinee Pricing ACR at 7-8.

¹⁵ California ISO, Renewables, <http://publications.caiso.com/StateOfTheGrid2014/RenewablesIntegration.htm>.

¹⁶ The California Energy Commission recently mapped the sources and amount of water used by California’s power plants. http://www.energy.ca.gov/siting/documents/2015-06-25_water_supplies_map.pdf.

and low-water-using generation, and deter energy demand during the afternoon when renewable and low water-using generation is often plentiful. For commercial, industrial, and agricultural customers, PG&E defines on-peak hours as noon to 6:00 p.m. on weekdays from May to October; SCE defines on-peak as noon to 6:00 p.m. on summer weekdays, and SDG&E defines on-peak as 11:00 a.m. to 6:00 p.m. on weekdays from May to September and 5:00 p.m. to 8:00 p.m. in the winter.¹⁷

TOU rates are mandatory for commercial, industrial, and agricultural customers, and the hours chosen for peak pricing are intended to discourage energy use during hours currently defined as “on-peak.” Energy use by these sectors is substantial. The CEC Electricity Consumption Data Management System (ECDMS) reports that in 2014 PG&E, SCE, and SDG&E Agricultural & Water Pumping, Commercial Building, Other Commercial, Industrial, and Mining Customers used 12.6 million MW hours of electricity combined (126207.3488 million kilowatt-hour (kWh)), up from 12.3 million MW hours in 2013 (12206.6 million kWh). For natural gas, in 2014 PG&E, Southern California Gas Edison Company, and SDG&E Agricultural & Water Pumping, Commercial Building, Other Commercial, Industrial, and Mining Customers used 5,952.9 therms combined, compared to 5,974.1 therms combined in 2013.

In the agricultural sector, Agriculture and Water Pumping electric use in PG&E territory grew from 4600.8 million kWh in 2011 to 7731.1 million kWh in 2014, likely due to increased use of electricity for pumping groundwater from wells during the drought. Similarly, Agriculture and Water Pumping electric use

¹⁷ All three utilities have pending applications, or are expected to file applications later in 2016 to adjust these periods to more closely reflect grid needs.

in SCE territory grew from 2806.6 million kWh in 2011 to 3597.5 million kWh in 2014.

Overall demand on the grid is growing in the early evening. CAISO's analysis of the alignment of supply and demand found the following: "throughout the year, on both weekdays and weekends, supply is expected to be constrained during the peak hours from 4:00 p.m. to 9:00 p.m. when the sun is setting and solar output is declining. During the months of July and August, the supplies are even more limited during peak hours, and higher demand begins as early as noon."

The current commercial, industrial, and agricultural TOU tariff structure encourages those customers to decrease energy use during the afternoon when renewable and low-water-using energy are abundant. These tariffs may also encourage consumption in the evening when energy resources are in higher demand, and low-water-using and renewable energy is less plentiful.

New strategies are needed to address the water-energy nexus, incentivize use of low-water-using energy, encourage renewable use, reduce greenhouse gas (GHG) emissions, and discourage energy use in the early evening when demand is high and energy supply uses more water. Redefining "peak use" periods to better align with water and energy resources will be an important factor in addressing the water/energy-GHG nexus.

1.3. Energy Matinee Pricing Tariff Proposals and Comments

The Matinee Pricing ACR sought proposals for opt-in pilot tariffs for commercial, industrial and agricultural customers to encourage the use of energy when the renewable and low-water-using electricity supply are plentiful, and discourage the use of energy when larger water using generators are the marginal source of energy. The Matinee Pricing ACR invited proposals

including different time-of-use periods, and those aimed at different sectors or types of users.

On January 12, 2016, the following parties submitted opening comments on the Matinee Pricing ACR: Office of Ratepayer Advocates (ORA), The Utility Reform Network (TURN), SDG&E, Shell Energy North America (US), L.P. (Shell), California Farm Bureau Federation (CFBF), California Large Energy Consumers Association (CLECA), Utility Consumers' Action Network (UCAN), SCE, PG&E, NLine Energy, Inc. (NLine).¹⁸ Reply comments were filed on January 22, 2016 by NLine, PG&E, SDG&E, CFC, Association of California Water Agencies (ACWA), CLECA, UCAN and California Municipal Utilities Association. On January 25, 2016, joint reply comments were filed by Bear Valley Electric Service Company, A Division of Golden State Water Company (Bear Valley), Liberty Utilities (CalPeco Electric) LLC (Liberty), and PacifiCorp (collectively, California Association of Small and Multi-Jurisdictional Utilities or CASMU).

On February 4, 2016, the three large investor-owned utilities (PG&E, SCE, and SDG&E, collectively the Investor-Owned Utilities "IOUs") each filed a proposal for a non-residential opt-in matinee pricing pilot. CFBF also filed a proposal. PG&E titled its proposal "Preliminary Proposal for a Non-Residential Opt-In Matinee Pricing Pilot in Response to the Assigned Commissioner's Ruling the CPUC's Water-Energy Nexus Proceeding Rulemaking 13-12-011." SCE and SDG&E each titled their proposal "Energy Matinee Tariff Pilot Proposal." In this decision, all references to matinee pricing proposals are to these three filings,

¹⁸ NLine's comments were accepted for late-filing on January 13, 2016.

plus any modifications specified by an IOU in its respective comments filed in April 2016.

A workshop was held on February 24, 2016, to assist parties in understanding potential matinee pricing rate designs and their potential for adoption by customers. The workshop was attended by Commissioner Sandoval and her advisors, the assigned Administrative Law Judge (ALJ) Jeanne McKinney, Energy Division staff, and numerous parties.

Based on the proposals and comments and informed by the workshop, the assigned Commissioner issued a ruling on March 21, 2016 Setting Schedule for Next Steps in Matinee Rates and Inviting Comments (Next Steps ACR). The Next Steps ACR directed parties to respond to an additional set of questions on the matinee rates pilots, and gave the IOUs some guidance on refining their February 4, 2016 proposals. In particular, the Next Steps ACR directed PG&E to prioritize its “option 3” (as explained in greater detail below), with the goal of a proposed decision being issued before summer 2016 to allow time for pilots to be implemented no later than spring 2017. The ACR contemplated that the pilots would extend through June 2018 so that at least two spring load curve responses could be studied.

Parties were invited to comment generally on proposed utility pilots, as modified by the following specific parameters:

1. Pilot Duration commencing at the beginning of Spring 2017 and running through the end of Spring 2018 (including two Spring periods);
2. Metrics: Pilots should measure: (i) Load shift from peak to off-peak usage associated with the pilot tariff; (ii) Change in the amount of energy used by the customer during peak and off-peak periods; (iii) change in the amount of water used by electric generation during peak and off-peak

- periods for power plant cooling; and (iv) utility load conditions and any curtailments associated with over-generation of renewables.
3. Cost Tracking in a separate Memorandum Account.
 4. Whether PG&E's option 3 should be the only matinee pricing pilot considered for PG&E.
 5. Whether super off-peak hours should be exempt from demand charges.
 6. Participation of a minimum of 100 and a maximum of 200 customers from C&I or Agricultural customer classes.

Opening Comments were filed and served on April 20, 2016 by PG&E, SCE, SDG&E, California Water Association (CWA), CFBF, UCAN, and NLine. Reply Comments were filed and served on April 29, 2016, by PG&E, SDG&E, UCAN and NLine.

2. The Pilot Proposals

2.1. Pacific Gas and Electric Company

PG&E's February 4, 2016 proposal included three options, each of which would be an opt-in "rider" or "over-layer" on a customer's otherwise applicable tariff (OAT). The PG&E proposal indicates that the Commission would need to choose amongst the three options; PG&E preferred option 3, which consists of a matinee rate with static Time-of-Use (TOU) periods that vary by season and weekend or weekday, but are otherwise predictable from day to day. The rate is designed to incentivize energy "matinee" use with pricing to take advantage of renewable and low-water-using energy.

The Next Steps ACR directed PG&E to focus on option 3, and asked parties to comment. CFBF stated that it is unlikely that the Commission will see extensive participation in the pilots from the agricultural sector. For the PG&E

pilot, CFBF argues that farmers will not know exactly how much water they need to pump in March/April on a year-to-year basis.

NLine suggested that the PG&E pilot include a dynamic price signal that also addresses the demand charges faced by customers (as well as energy charges).¹⁹ They recommend that both credits and charges be used to incentivize consumption when there is over-generation and disincentivize consumption when a steep ramp is faced.²⁰ NLine also recommended that the days and times of PG&E's pilot proposal be adjusted and that the seasonal window be expanded into September. They also disagree with the eligibility requirements in PG&E's proposal. They agree with PG&E's qualitative evaluation approach to reinforce quantitative findings.

CWA supported PG&E's proposed pilot rate design. They believe their members are best suited to react to a static TOU model with established off-peak periods. They stated that their members are not well equipped to take advantage of more dynamic rates. They suggested that all IOUs develop static TOU models in the future.²¹

In their reply comments, PG&E criticized NLine's pilot proposal and stated that it would present complexity that would make it impossible for PG&E to begin its pilot on time. They suggested that NLine's proposal would be better discussed in Rulemaking (R.) 15-12-012, the Commission's Rulemaking to Assess Peak Electricity Usage Patterns and Consider Appropriate Time Periods for Future Time-of-Use Rates and Energy Resource Contract Payments.

¹⁹ NLine Comments at 4 – 7.

²⁰ *Id.*

²¹ CWA at 2-3.

2.1.1. Rate Attributes

PG&E proposes a static program of incentives for increased consumption during pre-set days and times of excess generation, and prices that are set in advance.

- Super off-peak credit: (4 cents/kWh)²²
All days in March, April 8:30 a.m. – 3:30 p.m.²³
Weekends, holidays in May, June 8:30 a.m. - 3:30 p.m.
- The credit would be offset by an adder (1 cent/kWh) on all other March-June hours to address revenue neutrality.
- Technology: Only a meter that allows for interval billing is required for PG&E's proposed pilot.

For the pilot, PG&E proposes²⁴ to set prices based on predicted marginal costs for 2020. The state's 33% renewable portfolio standard should be reached by 2020, and PG&E argues that a 2020 scenario would therefore be more useful than pricing the pilot rates using 2017 marginal costs. PG&E believes that pricing using 2020 marginal costs will result in a higher price differential between periods, and that therefore it is more likely "that the signals from the pilot will rise above the noise."²⁵ PG&E's comments included tables showing negative day-ahead pricing hours forecast for each year 2016 - 2020 for wet, dry and average hydro scenarios.

²² Example amount shown in sample Tariff sheet provided in PG&E Comments.

²³ PG&E Comments at 3.

²⁴ We note that PG&E has also proposed a similar matinee pricing tariff as part of their Phase II 2017 General Rate Case, Application 16-06-013.

²⁵ PG&E Proposal at 10.

2.2. Southern California Edison Company**2.2.1. Rate Attributes**

SCE proposes a modified version of its existing Real-Time Pricing (RTP) tariff schedule to offer more attractive pricing during periods when energy is expected to be abundant. The rate would consist of a menu of hourly prices that would reflect nine different temperature/day-of-week profiles. The applicable pricing menu would be determined one day in advance based on the maximum temperature recorded on the prior day at the downtown Los Angeles weather station. The customer would be notified the day before of which of the nine different profiles would apply.

The pilot rates will offer very low generation energy rates, at approximately a 30% discount, ranging from two to three cents per kilowatt-hour, between 10:00 a.m. and 4:00 p.m. during weekends, and during most spring/winter weekdays, when generation oversupply is more likely to occur. The low generation energy price provides an incentive for customers to shift load into the matinee period to take advantage of the lower charges. For example, pricing menus would include (a) "Extremely Hot Summer Weekday" profile (typically 3 days per year) with high energy prices in the afternoon around 4:00 p.m.; (b) "Low Cost Winter Weekday" profile (160 days expected) with prices lower early in the day with lowest price at 3:00 am; and (c) "Low Cost Weekend" profile (68 days expected) with lowest cost in morning.

SCE contents that retaining the current RTP rate structure with the daily schedule- and temperature- driven format will facilitate customer acceptance, because existing RTP customers are already familiar with that rate structure. While retaining the RTP rate structure, SCE proposes to reduce the price for off-peak generation by replacing the marginal generation energy cost component

used in the current RTP rate schedule with a cost component based on recent CAISO day-ahead energy price data.

2.3. San Diego Gas & Electric Company

2.3.1. Rate Attributes

SDG&E proposes to use hourly dynamic pricing in which day-ahead or day-of prices from CAISO would be used as “adders” and “credits” in an hourly rate scheme. The pilot would limit participation to agricultural and water-pumping customers on schedule PA-T-1 with a maximum monthly demand of 500 kW or more. In its February proposal, SDG&E describes its rate design as hourly dynamic pricing that incorporates the day-ahead CAISO price for the day-ahead adder and the day-of credit on event days. SDG&E describes this rate design as being “real time” in nature. SDG&E expects most credits to fall between 10:00 a.m. and 2:00 p.m. during winter months, defined on PA-T-1 as being November through April.

3. Discussion and Analysis

3.1. Approval of the Three Proposed Pilots

The pilots proposed by the utilities propose different types of time-varying rate ideas, reflecting distinct assumptions, technology, and challenges. All of the pilots would offer a reduced electricity rate at certain times when demand for electricity is expected to be low. All of the rates are intended to be revenue neutral, meaning that the amount not collected during the matinee period would be collected by slightly higher rates at other times of the day. But the pilots differ in how dynamic the rates would be. PG&E proposes a static TOU rate and, at the other end of the spectrum, SDG&E proposes a dynamic rate that would change based on hourly signals sent from SDG&E to the customer’s technology interface. In between is SCE’s proposal for an event-based dynamic rate.

Static TOU Periods: A static TOU rate structure, such as that proposed by PG&E, is set in advance and remains the same over a defined period of months. TOU periods could vary from season to season, but would be pre-defined at the time the rate is offered. The advantages of a static TOU rate structure are predictability and ease of understanding. When the customer enrolls in a static TOU rate, they are informed about the periods for each day and accordingly the customer can plan ahead. At the workshop, a water utility representative stated that advanced notice of the times when energy matinee prices would be available would help industrial customers plan their water treatment process and schedule appropriate labor and resources for that time. The disadvantage is that the time periods are locked in, so the customer does not respond to the actual needs of the grid on a specific day. Because excess generation hours are likely to be intermittent, a static TOU rate may be less likely to provide cost-based pricing, because not all the super off-peak hours would actually experience low prices (which depend on actual weather and other factors).²⁶ As PG&E points out, however, even though a pilot with a static TOU rate may not be targeted perfectly to actual low cost hours, much could still be learned about customer response to this type of option.

Event-Based TOU Periods/RTP: Under this rate structure, TOU periods that change when an event, such as a forecast of hot weather, occurs. Similar to static TOU rates, the customer will know the range of prices and TOU periods in advance, but, unlike static TOU, the customer will not know until the day before exactly which combination of pricing and TOU periods will apply. SCE has

²⁶ PG&E Proposal at 9.

proposed such a rate. The advantages of this rate are that it can reflect actual grid needs and prices more accurately than static TOU periods and the customer retains some ability to plan in advance. At the workshop, a water utility representative stated that advanced notice of the times when energy matinee prices would be available would help an industrial customer plan its water treatment process and schedule appropriate labor and resources for that time. The disadvantage is that this rate is not as predictable for the customer as a static TOU rate, and this rate does not reflect actual grid needs with the same level of accuracy as RTP.

Dynamic Day-Ahead or Hour-Ahead RTP: Under this rate structure, TOU periods vary from day to day and hour to hour based on the market. SDG&E has proposed a day-ahead RTP rate. Unlike the SCE RTP, SDG&E's proposed rate would not be limited to nine profiles. Instead, the rate would vary based on the actual hourly needs, as determined the day before. The advantage to this RTP rate is that it is more efficient because it can more accurately track grid needs and prices as they vary from hour to hour. The disadvantage is that it requires much more flexibility on the part of the customer: the customer cannot plan energy use days or weeks in advance and special equipment is typically needed to respond to such dynamic prices. The need to quickly reschedule industrial processes and personnel may limit participation in the pilot to users who can adapt to quick changes in energy price signals.

Designing these rates to be effective requires understanding grid needs and customer needs. The purpose of authorizing these pilots is to demonstrate a "proof of concept" for the energy matinee pricing concept and to track associated system benefits for both water and energy. These pilots will not attempt to

quantify customer response on these rates compared to other rates, and will instead focus on demonstrating:

- (1) That the rates can be and are used by customers;
- (2) Those customers believe they can change their energy demand to respond to the matinee period, as measured through surveys and focus groups; and
- (3) Which customers might have particular interest or ability to respond to particular time-varying rate designs.

CWA supports PG&E's proposed pilot rate design.²⁷ CWA believes their members are best suited to react to a static TOU model with established off-peak periods. They state that their members are not well equipped to take advantage of more dynamic rates due to the need to plan personnel staffing and industrial processes such as water treatment and pumping.

CFBF asserts that participation in the proposed rate designs will be difficult for agricultural customers. For SDG&E, CFBF asserts that it is very unlikely that there are agricultural customers with over 500 kW in demand. For the PG&E pilot, CFBF is concerned that farmers will not know exactly how much water they need to pump in March/April on a year-to-year basis. CFBF states that SCE's pilot may be the most acceptable of the three, but the 200 kW threshold may exclude many farmers. We note CFBF's concerns, and direct the IOUs to specifically study enrollment of agricultural customers in their pilots, and take steps to facilitate their participation.

UCAN provided a list of 13 different factors that farmers take into account when determining the best time to water their crops. Electricity pricing is not

²⁷ Aside from NLine, parties either supported or did not comment on the proposal to use only the static TOU periods option in PG&E's proposal.

one of the factors. UCAN states, and we agree, that this long list of factors suggests that the decisionmaking around the best time to water crops is complex. In addition, UCAN is concerned that matinee pricing could encourage watering patterns that required increased use of water by farmers.

By approving different types of TOU rates for each IOU, we will be able to simultaneously test and compare results from the different rate design approaches. As PG&E points out, this diversity of approaches will result in a broader range of insights to help guide future matinee pricing rate designs.²⁸ We agree with PG&E and believe that the particular portfolio of pilots proposed by the IOUs represents an appropriate mix and will provide useful information for development of future pilots and rate designs. Furthermore, running the pilots from Spring 2017-Spring 2018 with a variety of proposals will help inform the Commission about the efficacy of the energy matinee pricing concept. In light of this, we adopt the three proposals and allow each IOU to implement its specific matinee pricing pilot. We make some minor modifications to the proposals, as discussed below.

PG&E's pilot being considered in this proceeding is similar to a pending proposal in Application (A.) 16-06-013, its 2017 General Rate Case Phase II (GRC Phase II), which was filed after this pilot tariff. We make some modifications to the PG&E pilot we adopt today to harmonize with the proposal in the GRC Phase II. While we do not comment on whether or not PG&E's matinee pricing tariff will become permanent, we do think it is reasonable to modify the PG&E pilot to better align with the possibility of a broader expansion.

²⁸ PG&E Comments at 4.

The first change we make to the PG&E pilot is to reduce the number of eligible hours, from 546 to 390 hours total; this shortens the time periods the tariff could be offered during the eligible Spring days to be from 10:00 a.m. to 3:00 p.m. Second, if the Commission were to adopt (either as proposed or in a modified form) the matinee tariff in A.16-06-013, then this pilot should end at that time, which is earlier than Spring 2018 date envisioned for the conclusion of these pilots. If the matinee tariff were to be adopted, we envision that the participating customers should automatically be transferred over to the new tariff with as little disruption as possible.

Other changes to the pilots are discussed, below.

3.2. Demand Charges

Most non-residential customers pay demand charges as part of their electricity bill. These demand charges are set based on the customer's maximum use for a given period of time. Demand charges can make up a significant portion of a customer's electric bill. The customer can control this cost by shifting electricity use, thereby reducing the customer's peak demand. There are a wide variety of approaches to demand charges for different customer classes and different IOUs.

Matinee rates are intended to encourage customers to increase energy use at certain times of day. If demand charges also apply during these matinee periods, then the customer's increase in energy use during matinee periods could result in a higher demand charge. In other words, the volumetric rate would encourage increased use at the same time that the demand charge signals customers not to use a large amount of energy. This runs counter to the primary objective of the energy matinee pricing concept, which is to send the customer a price signal to shift electric use based on a price signal, optimizing water and

energy. Since we are adopting an energy matinee pricing pilot in today's decision, we must also consider modifications to how demand charges are assessed for participating customers. The Next Steps ACR asked parties to comment on treatment of demand charges for matinee rates.

CBPF states that an exemption from demand charges could be an attraction to potential agricultural participants, but the attractiveness of an exemption from demand charges will depend on the nature of the individual agricultural customer's operations.²⁹

UCAN recommends that super-off-peak periods not be included for purposes of assessing demand charges.³⁰

PG&E's matinee rate is designed to minimize application of demand charges during matinee rates.³¹ Currently, PG&E's rates include three different demand charges. The first two, distribution demand charge and generation demand charge, are set and approved by the Commission. The third charge is the transmission demand charge which is set by the Federal Energy Regulatory Commission (FERC). Because the transmission demand charge is set by FERC, PG&E and the Commission do not have authority to make changes to it at this time. Based on this, PG&E will apply demand charges as follows for the matinee rate:

- Distribution Demand Charge and Generation Demand Charge: electricity use during super off-peak periods does not count toward Distribution Demand Charge or Generation Demand Charge.

²⁹ CFBF Opening Comments at 4.

³⁰ UCAN Reply Comments at 5.

³¹ PG&E Comments at 3.

- Transmission Demand Charge: electricity use during super off-peak does count toward calculation of the Transmission Demand Charge as imposed by FERC.

SDG&E notes that customers who switch to PA-T-1 from other rates may avoid the on-peak demand charges that apply on those other rates, but SDG&E does not propose to modify the demand charges that apply on PA-T-1 during the hours of 6:00 a.m. to 10:00 p.m. on weekdays. In other words, SDG&E is proposing no change to the way it assesses demand charges for pilot participants.

SCE's demand charges include both time-related demand (TRD) charges and facilities-related demand (FRD) charges. TRD charges are differentiated by summer and winter seasons and by TOU periods. Winter super off-peak periods do not have TRD charges. The matinee period would occur during the winter season and would not have TRD charges.

SCE proposed to continue to bill the FRD charge based on a customer's maximum kW demand during the month. FRD is not time-differentiated and is calculated based on non-coincident peak. SCE reasons that because the FRD is intended to reflect facilities-related costs for which time-of-use is not a factor, the FRD demand charge should be based on highest use regardless of time.

SCE's approach will result in mixed price signals for some customers. If a customer chooses to shift a large amount of usage to the low-cost matinee periods, the customer may have increased demand charges. We have concerns about this approach because basing FRD on maximum kW demand may discourage energy use when energy is most abundant and the grid could benefit from attracting energy demand to compensate for potential or actual energy oversupply.

Regardless of our concerns regarding mixed price signals, in light of the short time-frame available to implement the pilots, and the very limited number of customers who will be impacted, we are allowing SCE to adopt this approach for the limited purpose of this pilot. In the matinee pricing pilots, the IOUs shall study and report on the impact of demand charges on customer decision-making and response to the matinee pricing. The adoption of this approach for SCE's pilot should not be treated as precedent for any other rate designs.

In an effort to better understand the impact of SCE's FRD charge on matinee pricing, we direct SCE to collect data and provide information on customer response as part of its Matinee Pricing Reports. For comparison, we direct PG&E and SDG&E to also track whether their respective matinee pricing pilot rates have an impact on revenue collected through demand charges, if any.

3.3. Study Duration Participation Levels and Other Parameters

All three IOUs agree that the study period should run from spring 2017 through spring 2018 with the goal of obtaining data from two different spring seasons. Both SCE and PG&E state that there is a significant lead time for creating the necessary billing system for these rates.³² We recognize the practical reasons for these timelines, we believe that the timing of today's decision combined with the guidance given in the Next Steps ACR provide adequate lead time for a March 2017 start.

NLine was the only party to propose a different duration. NLine proposes running the pilots from March 1, 2017 to September 30, 2018 to ensure that

³² PG&E Comments at 4.

two full “water years” of data are recorded.³³ UCAN supported the proposed March 2017 start, but argues that the pilot should not be rushed.³⁴

We agree with the IOUs that the most practical and useful time period should include two spring seasons. The spring season is when the matinee pricing – pricing that encourages energy use at the desired daytime period – will be tested, as the spring season is when energy overgeneration, and the need for energy curtailment is projected to be most likely to occur. Extending the pilot to the end of the summer will not provide the same level of information on customer response to matinee rates in times of potential over-generation. Therefore, it is not necessary to extend the pilot duration as proposed by NLine. Based on this, we direct the IOUs to run their pilots from March 1, 2017 through June 30, 2018. The IOUs are permitted to request an extension of the pilots beyond June 2018 by filing a Tier 2 Advice Letter no later than January 31, 2018. We reiterate our discussion from above that if PG&E’s pilot matinee pricing tariff were to become permanent (either as proposed or modified in some way) as part of its GRC Phase II application, then the pilot should end earlier than this time and the participating customers should be transferred over with as little disruption as possible.

SCE proposes to target the following customer groups: large Agricultural & Pumping customers, water agencies, electric vehicle (EV) and energy storage (ES) customers, and existing large real time pricing (RTP) customers.³⁵ SCE

³³ NLine Comments at 3.

³⁴ UCAN Comments at 6.

³⁵ SCE currently has roughly 110 and 30 customers on existing large and small RTP rates, respectively. These customers account for 83 megawatts (MW) of load.

believes these customer groups are the most likely to benefit from matinee pricing rates. To be eligible, customers must have monthly maximum demands over 200 kW^{36 37}

Both PG&E and SCE will restrict participation to those that do not participate in NEM, Standby, or other Demand Response programs.

SCE sets forth some specific recruitment plans, including meeting with the agricultural segment business owners at local California farm bureau chapter meetings during the recruitment period to address and answer questions about the pilot rate. We agree with this approach not only as a recruitment tool but also as a way to learn more about customer interest and barriers to participation.

In its Opening Comments, SDG&E noted that there are currently 509 customers on the PA-T-1 tariff, including 149 agricultural accounts and 274 water accounts. SDG&E's rate requires a specific customer control system to accommodate the hourly price changes. The required technology is "high cost." SDG&E's pilot is the only one with a significant technological barrier to participation. SDG&E suggests that if potential participants do not have the required technology they should then explore the Demand Response Program – Technology Incentive Program. "The customer would need to engage SDG&E in an application and testing process to ensure that they are eligible for the technology. If a customer chooses not to install the required technological interface, SDG&E could work with the customer on a communication plan that would include telephone and email notifications. SDG&E notes that this alternative interface would not be optimal." In contrast, NLine argues that

³⁶ SCE Proposal at 10.

³⁷ SCE Proposal at 4.

email, phone and text notifications are sufficient for customers to participate in a dynamic hourly rate. We find that for purposes of the pilot, enrollment should be restricted to those customers that already have or are willing to procure in time the customer control system required for full pilot participation. To participate in the pilot, SDG&E customers may not substitute email, telephone or other forms of communication for the technological interface currently required by SDG&E.

The IOUs and most other parties generally agree that study of 100 - 200 participants is appropriate given the constraints and goals of the pilots.

PG&E proposes a maximum of 200 participants. PG&E recommends that, given the voluntary nature of an opt-in pilot, there should not be a minimum number of participants. PG&E also states a preference for a maximum of 200 non-residential customers on schedules A-10 TOU, AG-4B, AG-5B, E-19 or E-20.³⁸ Customers on NEM, peak day pricing, other DR programs or Standby service would not be eligible.³⁹ As PG&E suggests, an informal approach to recruitment may be the most appropriate given the timing and purpose of these pilots.⁴⁰

NLine proposes a different approach, using number of billed service agreements instead of number of customers. We agree that billed service agreements are an appropriate metric. For purposes of this pilot, the enrollment goals (and the study parameters) are best set based on the number of billed service agreements.

³⁸ PG&E Comments at 2.

³⁹ PG&E Comments at 4.

⁴⁰ PG&E Proposal at Appendix 1.

SCE recommends that the pilot be conducted with whatever number of participants choose to join, regardless of whether that number is below 100 or above 200. SCE says it does not plan to turn away participants if more than 200 express interest. If fewer than 100 participants enroll, SCE would re-engage the target audience of commercial and agricultural customers. We agree with SCE that the exact number of enrollees is not prescriptive to our understanding of the pilots overall.

Given that the objective of this pilot is to demonstrate proof of concept, the exact manner of recruitment is not essential. We therefore direct the IOUs to take the steps they feel are reasonable (and feasible) to recruit participants. The IOUs may select pilot participants from a pool of applicants or from applications on a first-come-first-served basis, or a combination. The IOUs shall target 100-200 service agreements as pilot participants.

It is, however, important that a minimum number of service agreements are reached and that a minimum amount of data is collected. If the minimum enrollment of 100 participants is not reached, the pilot should go forward, but the utility should also gather information on a minimum number of targeted customers. Therefore, if the pilot does not reach 100 enrollees, we direct the IOU to study the interest levels of at least 100 potential enrollees. These potential enrollees should come from the targeted customer class, with the goal of understanding on a qualitative level why customers are not interested in participating, what barriers exist to participation, and what changes or additional steps would be necessary to make matinee pricing rates more attractive to customers. The findings should be included in the Matinee Pricing Pilot Reports (as described below).

Similarly, in the event that an enrolled customer drops out before the end of the pilot, data should be collected on the reasons for the drop out. Again, the goal of this research is to provide a qualitative understanding of reasons why some customers chose not to stay on the rate. This information should be included in the Matinee Pricing Pilot Reports.

SCE suggests that if a customer drops out, and does not choose service on another applicable rate, the customer should be served on their OAT. If a customer chooses an applicable rate that is not the OAT, the selected rate will apply to service beginning with the customer's next regularly scheduled meter read date after SCE receives the customer's request. Customers who enroll and subsequently withdraw from the pilot would not be able to re-enroll back into the pilot. We agree with this approach, and we direct all three IOUs to include these terms as part of their matinee pricing tariffs.

3.4. Budgets and Cost Recovery

PG&E states that its proposed matinee pricing rate will require considerable customer outreach as well as structural billing system changes that will carry incremental costs.⁴¹ Based on this, PG&E currently estimates that the incremental costs for billing system, marketing, education and outreach, and other operational impacts of launching and conducting this pilot are likely to be in the range of \$1.5 - \$2 million (from June 2016 – Fall 2018).⁴²

⁴¹ PG&E Comments at 4.

⁴² PG&E Comments at 13.

PG&E states that any lost demand charge revenue – should it exist – would not be covered by the pilot rate itself but would be collected from all other customers through usual distribution and generation balancing accounts.

PG&E proposes to recover the incremental costs of the pilot through a separate memorandum account called the Energy Matinee Pricing Tariff Pilot Memorandum Account. PG&E states that the Memorandum Account would be used exclusively “to record and recover the actual costs incurred in the development, implementation, operations, and measurement and evaluation of its [Energy Matinee Pricing Tariff (EMPT)] pilot. Costs would include incremental costs for customer outreach and education, recruitment of pilot participants, billing and technology system programming and other tracking IT costs, a customer event notification system (if necessary) and costs associated with measurement and evaluation. PG&E anticipates such costs will start in spring 2016 (for rate development), continue for up to two years, and, after the pilot is over, continue for measurement and evaluation to support a final report to be submitted to the Commission.⁴³ PG&E proposes to include its actual costs for recovery in its 2020 GRC Phase 1 request (expected to be filed in December 2020), or seek reasonableness review through another appropriate proceeding.

SCE estimates its costs for the matinee pricing pilot at \$405,000,⁴⁴ with \$350,000 for improvements to its billing system changes.⁴⁵ SCE also proposes to establish a memorandum account to track incremental pilot costs. The memorandum account would be called the Energy Matinee Tariff Program Pilot

⁴³ PG&E Proposal at 14.

⁴⁴ SCE Proposal at 15.

⁴⁵ SCE Proposal at 10.

Memorandum Account and would be used to track the incremental operation and maintenance (O&M) expenses incurred and associated with the pilot program. Revenue requirements tracked in the account will be related to costs incurred for activities including, but not limited to, IT and billing system changes necessary to implement and run the pilot, and marketing and outreach and recruitment-related efforts.

SCE notes that because its Memorandum Account would be Commission-approved it would protect against retroactive ratemaking concerns, but would not guarantee recovery in rates of any of the recorded costs prior to Commission review and approval. At the conclusion of the pilot program, SCE will request review and recovery of the costs recorded in the Memorandum Account in its following annual Energy Resource Recovery Account (ERRA) Review proceeding.

SDG&E also requests tracking costs in a memorandum account. In its February proposal, SDG&E estimated a study cost of \$1 – 1.5 million, with an additional \$250,000 for a load impact study.

We agree with these proposals for memorandum accounts subject to later reasonableness review. We direct each IOU to create its respective memorandum account through the Tier 1 Advice Letter process. The amounts tracked in the memorandum accounts are subject to reasonableness review in the IOU's first General Rate Case or ERRA following completion of the pilot, with the burden on the utility to show that the expenditures were incremental, verifiable, and reasonable.

3.5. Evaluation Approach

A number of parties raise issues about the evaluation approaches, size of the sample and control group, and type of data to be gathered. The utilities have

responded to these criticisms by clarifying a number of these points in their reply comments. Because of the relatively small scale of these pilots and the limited outlay of ratepayer funds, we do not believe that the Commission should be as prescriptive as some parties appear to prefer in establishing the evaluation approach. Rather, we direct each utility within 60 days of the effective date of this decision to file a Program Implementation Plan via Tier 2 Advice Letter. The Program Implementation Plan should include, but is not limited to, detailed schedules for implementation, proposed budgets, projected savings and cost-effectiveness using the water-energy calculator, marketing, education, and outreach guidelines, data requirements, and measurement and evaluation plan. Energy Division will review the Advice Letter for consistency with this decision.

As discussed at length above, the purpose of these pilots is to demonstrate proof of concept. These pilots are not expected to yield statistically significant findings about matinee pricing. Instead, these pilots are intended to identify whether matinee pricing can be implemented and used by customers, and to identify barriers to participation, and potential program adjustments. We will evaluate whether the pilots will impact on load curve. However, given the limited number of participants and the lack of control groups, we will not be able to assess the impact of these pilots on load at more than an anecdotal level.

These limitations arise for several reasons. First, the number of participants will be relatively small. Second, in order to quickly implement the pilots and begin learning about matinee rate implementation, the rulings in this proceeding determined that it was not necessary to develop controls for comparison purposes. We acknowledge these limitations, but believe that this approach of learning some basic information about customer response to

matinee pricing will provide us the information necessary to either design a more complex pilot, or to begin designing matinee pricing tariffs.

In addition, by studying three different matinee rate structures, we expect to learn important lessons about the types of rates and the types of customers that work well together.

We asked parties to contribute their ideas and thoughts on possible evaluation and study areas, and we discuss those contributions in the next section.

3.5.1. Specific Metrics from the Next Steps ACR

The Next Steps ACR asked parties to comment on four specific metrics:

(i) Load shift from peak to off-peak usage associated with the pilot tariff; (ii) Change in the amount of energy used by the customer during peak and off-peak periods; (iii) change in the amount of water used by electric generation during peak and off-peak periods for power plant cooling; and (iv) utility load conditions and any curtailments associated with over-generation of renewables.

The IOUs generally believe that it is possible that the first two proposed metrics (load shift from peak to off-peak and change in customer's peak and off-peak energy use) could be evaluated on a quantitative level if conditions were right, but that the information obtained might not be sufficient for robust statistical analysis. Indeed, PG&E recommended focusing on a qualitative approach to measurement of the pilot's impacts. These could be gathered from surveys, focus groups, or a combination of those. Pilot participants could be asked about their satisfaction with the pilot rate and their understanding of the rate structure.

In contrast, the last two proposed metrics (water used in electric generation and system impacts) require information that is not readily available

to the IOUs. PG&E claims that the impact of retail pricing on the water used by generation in PG&E's service territory is very limited. It points out that it would be possible to estimate these savings only if quantitative estimates of the shift in load as a result of the pilot rate are developed. PG&E noted that the impact of the rate on water pumping could also be calculated in a similar fashion, but that it also depends on accurate quantitative estimates of a pilot-driven shift in load. SCE asserted that utilities do not have access to the information required to analyze the change in the amount of water used by generation facilities. SDG&E stated that they are not experts on water usage and have no experience measuring water savings. SDG&E recommended that the Commission convene a workshop to discuss methodologies to measure water savings from these types of programs, and they state they will consult with their local water agencies on ways to measure this impact. SDG&E also recommended attempting to calculate the embedded energy savings of the pilot using the Water-Energy Nexus cost effectiveness calculator (WEN CE calculator).

3.5.2. Matinee Pricing Reports

For the matinee pricing pilots to have value, it is essential to collect information to the extent available. Other than SDG&E, none of the parties made specific proposals for collection and reporting of this information. SDG&E proposed only that \$250,000 be included in its budget for a study. We find that a two-part reporting requirement should be sufficient:

- Spring 2017 Matinee Pricing Pilot Report: Due October 31, 2017 (for SDG&E and SCE; Due August 31, 2017 for PG&E) and
- Spring 2018 Matinee Pricing Pilot Report: Due October 31, 2018.

These Matinee Pricing Pilot Reports should include, at a minimum, a customer survey and data on customer energy use under these rates. However,

given the goals of the matinee pricing pilots, the survey is expected to be more qualitative than quantitative. The IOUs should work with Energy Division and interested parties to develop the format of the report. This process may include a workshop or working group. We direct the Spring 2017 Pilot Report for PG&E to be due earlier in light of its pending Phase II GRC application; we also direct PG&E to serve its 2017 Matinee Pricing Pilot Report to the service list of A.16-06-013. In the event that SB 919 is signed into law, the Matinee Pricing Pilot Reports should include data on pilot participation by customers targeted by SB 919 (facilities that create or augment local water supplies).

In any event, we find that the measurement and evaluation of these pilots will be qualitative in nature and primarily use surveys and focus groups to develop findings. The IOUs should explore if ex post statistical matching can be used to develop quantitative estimates of the increase in energy usage during off-peak periods caused by the rate design. However, if this matching cannot be achieved, then qualitative measurement is acceptable. Final interval data for the pilot customers (for the time they are on the pilot as well as the 12 months prior) should be provided to the Energy Division at the conclusion of the measurement and evaluation process. While enrollee specific information should be provided to the Commission under §583, summary information should be included in the annual reports described above and served to the service list to this Rulemaking.

3.6. Steps for Pilot Approval

Of the three IOUs, PG&E provided the most detail regarding the procedure for approval of the matinee pricing tariffs. Although all three IOUs are concerned about the lead time required to finish design and implementation of the matinee pricing tariffs, PG&E recommended specific ways to expedite the approval process. PG&E and SCE specifically noted that approvals in May 2016

would provide sufficient time to implement the tariffs by Spring 2017. The proposed decision in this proceeding is being issued in mid-June 2016.

As indicated in the Next Steps ACR, the goal of this decision is to approve the pilots with sufficient information and guidance as basis for a Tier 1 Advice Letter process for pilot program implementation. After reviewing the proposals and other filings from the IOUs, and the comments and proposals from other parties, we see no need to change this procedure. We believe that given the small size of the program, the importance of implementing the pilots in time for the next Spring 2017, and the carefully thought out pilot proposals approved in this decision, a Tier 1 Advice Letter process can be used to implement the pilots and approve pilot program tariffs.

As described below, based on the comments from the parties, and in particular from PG&E, we expect that a series of advice letters (some of which may be combined) will be necessary to address all of the aspects of implementation in an expedited fashion. Each IOU is required to file the following advice letters:

- Advice Letter A1: open Memorandum Account (Tier 1);
- Advice Letter A2: matinee pricing tariff proposal (Tier 1);
- Advice Letter B: program implementation plan (Tier 2);
- Advice Letter C: November 2016 Advice Letter to finalize tariff (Tier 2).
Due no later than November 15, 2016.

The purpose of Advice Letter A2 is to set forth the parameters of each of the pilot programs to be implemented in specific detail. For each utility, Advice Letter A2 should include tariff sheets based on the sample tariff sheets provided by that utility in its proposal and modified as required to fulfill this decision. PG&E's sample tariff sheets are attached to its April 20, 2016 Comments. SCE

and SDG&E each attached their respective sample tariff sheets to their February 4, 2016 proposals.

The purpose of Advice Letter B is set forth in Section 3.3 above.

Advice Letter C arises from PG&E's proposal for a November 2016 advice letter as a means of finalizing the tariff and refining and updating prices. We agree with the timing and content suggested by PG&E. As described by PG&E, this advice letter (Advice Letter C) would include its final tariff as well as its final plans for enrollment, marketing, education and outreach (ME&O), and measurement and evaluation (M&E). PG&E suggests working with Energy Division to develop enrollment guidelines, ME&O and M&E over the summer and fall of 2016. The November 2016 Advice Letter will also include any necessary refinements to Schedule EMPT, including the super off-peak period and rates.⁴⁶ We direct all three IOUs to use this approach. However, we must ensure that Energy Division has sufficient time to review the advice letter prior to the date it becomes effective. Therefore, we are requiring a Tier 2 advice letter to be filed in November 15, 2016.

Advice Letters A1 and A2 described above may be fulfilled as separate advice letters or combined. Advice letters A1 and A2 must be filed no later than October 1, 2016.

4. California Association of Small and Multi-Jurisdictional Utilities

As indicated in the Next Steps ACR, the small and multi-jurisdictional utilities are not required to develop and implement matinee pricing tariff pilots

⁴⁶ PG&E Comments at 3, footnote 2.

at this time. This exemption applies to: Bear Valley Electric Service, Liberty Utilities (CalPeco Electric) LLC, and PacifiCorp, d.b.a. Pacific Power.

In its joint reply comments filed on January 25, 2016, CASMU asserted that the Matinee Pricing ACR requiring pilot proposals was not intended to apply to CASMU members. CASMU pointed out that the Commission has routinely found that because of the small size of CASMU members, and the nature of their operations, it is “inappropriate and burdensome for the Commission to impose certain burdens on CASMU members.”⁴⁷ Second, CASMU members do not have the same infrastructure deployment and rate structures as the three larger IOUs. For example, not all CASMU members currently have smart meters or time-of-use rates.

We agree with CASMU and the Next Steps Ruling that at this time it would be burdensome for CASMU members to develop matinee pricing pilots. However, CASMU members remain respondents to this proceeding. Although CASMU members are not being directed to implement pilots at this time, the Commission may in the future, as part of this proceeding or in the individual CASMU member rate cases, direct CASMU members to implement their own matinee pricing pilots or tariffs.

5. Safety Considerations

The matinee pricing pilots will only impact the rates of the customers participating in the pilots and will not change the utilities’ present operations. We therefore find there are no safety implications arising from the matinee pricing pilots.

⁴⁷ January 25, 2016 Joint Reply Comments at 2.

6. Categorization and Need for Hearing

Pursuant to Resolution ALJ-301, this proceeding is categorized as quasi-legislative and *ex parte* communications are allowed without restriction or reporting.

7. Comments on Proposed Decision

The proposed decision of Commissioner Sandoval in this matter was mailed to the parties in accordance with Section 311 of the Public Utilities Code and comments were allowed under Rule 14.3 of the Commission's Rules of Practice and Procedure. Comments were filed on July 5, 2016 by PG&E, SDG&E and UCAN, and reply comments were filed on July 11, 2016 by UCAN. In response to the comments filed, we clarify that the target of participants of the matinee pricing pilots should be based on the number of service agreements and not just customers. We also extend the timeline for PG&E, SDG&E and SCE to file its Program Implementation Plan to 60 days. We clarify that the annual report is due on October 31, 2017 and October 31, 2018 respectively. No other changes were made.

On August 30, 2016, SB 919 was enrolled and presented to the Governor. SB 919 describes a program similar to the matinee pricing pilots. Language was added to the decision to highlight the relationship between the matinee pricing pilots and the SB 919 program.

8. Assignment of Proceeding

Catherine J.K. Sandoval is the assigned Commissioner and Jeanne M. McKinney and Michelle Cooke are the assigned ALJs in this proceeding.

Findings of Fact

1. Currently, there is the potential for an oversupply of energy at certain times of the day during certain seasons, and at other times energy use is high,

resulting in the need to use generating facilities that may require a large amount of water.

2. Both water and energy expenses can be reduced by shifting use to times when there is abundant low-water-using energy, and away from times when energy availability is low and electric generation is water intensive.

3. Currently, no time-of-use tariff focuses specifically on encouraging more energy use during the times of day and seasons when energy may be in oversupply.

4. The matinee pricing pilots have an expected ratepayer cost of approximately \$4.25 million (\$1.5 - \$2 million for PG&E, \$405,000 for SCE and \$1.75 million for SDG&E).

5. Because each utility has chosen a different rate design for its pilot, the matinee pricing pilots will allow us to compare customer response to three different types of matinee pricing.

6. The structure and evaluation of the pilots will benefit from permitting each IOU to set up a memorandum account to track the associated expenses.

7. If participation in the pilots is less than 100 customers, additional data should be obtained to better understand why customers in the targeted classes chose not to participate.

8. The size and timing of the pilots will not permit statistically significant findings regarding matinee pricing, but will permit evaluation of the matinee rate concept.

9. Written summary of the matinee pricing pilot findings is necessary so that the pilots can be used to inform future rate designs.

10. The CASMU members do not have the necessary smart meter technology and currently do not have time-of-use tariffs on which to base a matinee pricing pilot.

11. After submission of its matinee pricing pilot, PG&E proposed making the matinee tariff permanent in A.16-06-013.

Conclusions of Law

1. Conserving energy at certain times of peak usage by offering matinee pricing could benefit energy ratepayers and California's statewide need to conserve water.

2. Matinee pricing would use price signals to encourage commercial, industrial, and agricultural customers to conserve energy at times of system-wide peak usage.

3. In light of the relatively low ratepayer exposure to costs associated with these pilots, we should approve the matinee pricing pilots of all SDG&E, PG&E and SCE.

4. The CASMU members should not be required to participate because they do not have the necessary smart meter technology and time-of-use tariffs on which to base a matinee pricing pilot.

5. Separate memorandum accounts will allow pilot costs to be clearly separated from other utility costs.

6. Separate memorandum accounts will allow the Commission to review the reasonableness of the expenditures prior to any cost recovery by SDG&E, SCE or PG&E.

7. There are no safety implications for approving the matinee pricing pilots, and the pilots may improve safety by conserving water and energy.

O R D E R**IT IS ORDERED** that:

1. Pacific Gas and Electric Company's (PG&E) matinee pricing pilot program option 3, as described in PG&E's February 4, 2016 proposal, as modified by PG&E's Opening Comments filed April 20, 2016 and April 29, 2016 Reply Comments, and as further modified by this decision, is adopted. PG&E shall submit a Tier 1 Advice Letter no later than October 1, 2016, to implement the matinee pricing pilot and tariffs, with a pilot start date of March 1, 2017. PG&E shall submit a Tier 2 Advice Letter no later than November 15, 2016 to refine and finalize the matinee pricing pilot rates. PG&E shall submit a Tier 1 Advice Letter, which may be combined with the October 1, 2016 advice letter, to open a separate memorandum account. Within 60 days of the effective date of this decision, PG&E shall submit a Tier 2 Advice Letter setting forth its program implementation plan.

2. Southern California Edison Company's (SCE) matinee pricing pilot program, as described in SCE's February 4, 2016 proposal, as modified by SCE's Opening Comments filed April 20, 2016 and Reply Comments filed April 29, 2016, and as further modified by this decision, is adopted. SCE shall submit a Tier 1 Advice Letter no later than October 1, 2016, to implement the matinee pricing pilot and tariffs, with a pilot start date of March 1, 2017. SCE shall submit a Tier 2 Advice Letter no later than November 15, 2016 to refine and finalize the matinee pricing pilot rates. SCE shall file a Tier 1 Advice Letter, which may be combined with the October 1, 2016 advice letter, to open a separate memorandum account. Within 60 days of the effective date of this decision, SCE

shall submit a Tier 2 Advice Letter setting forth its program implementation plan.

3. San Diego Gas & Electric Company's (SDG&E) matinee pricing pilot program, as described in SDG&E's February 4, 2016 proposal, as modified by SDG&E's Opening Comments filed April 20, 2016 and Reply Comments filed April 29, 2016, and as further modified by this decision, is adopted. SDG&E shall submit a Tier 1 Advice Letter no later than October 1, 2016, to implement the matinee pricing pilot and tariffs, with a pilot start date of March 1, 2017. SDG&E shall submit a Tier 2 Advice Letter no later than November 15, 2017 to refine and finalize the matinee pricing pilot rates. SDG&E shall submit a Tier 1 Advice Letter, which may be combined with the October 1, 2016 Advice Letter, to open a separate memorandum account. Within 60 days of the effective date of this decision, SDG&E shall submit a Tier 2 Advice letter setting forth its program implementation plan.

4. Pacific Gas and Electric Company (PG&E), Southern California Edison Company (SCE) and San Diego Gas & Electric Company (SDG&E) shall each file two evaluation reports, each titled Matinee Pricing Report. The reports shall also be served on the service list of this Rulemaking and provided to Energy Division. The evaluation reports are due on October 31, 2017 for SCE and SDG&E and on August 31, 2017 for PG&E and October 31, 2018 for all three utilities. The evaluation reports should include a minimum of 100 service agreements. PG&E shall serve its Spring 2017 report to the service list for Application 16-06-013.

5. In the event that Pacific Gas and Electric Company, San Diego Gas & Electric Company, or Southern California Edison Company wishes to extend or expand its pilot program beyond June 2018, that utility must file a Tier 2 Advice Letter requesting such extension no later than January 31, 2018.

6. No later than October 1, 2016, Pacific Gas and Electric Company, San Diego Gas & Electric Company, and Southern California Edison Company shall file a Tier 1 Advice Letter to establish its Energy Matinee Pricing Tariff Pilot Memorandum Account to record the actual costs incurred in the development, implementation, operations and measurement and evaluation of its matinee pricing pilot. Cost recovery of the amounts recorded by each utility in its respective memorandum account is subject to reasonableness review. Pacific Gas and Electric Company, San Diego Gas & Electric Company, or Southern California Edison Company may each seek reasonableness review of their respective memorandum account balances in the first general rate case or an Energy Resource Recovery Account Review proceeding following the conclusion of that utility's matinee pricing pilot. The burden is on the utility to show that the expenditures tracked in the memorandum account are incremental, verifiable and reasonable.

7. Bear Valley Electric Service, Liberty Utilities (CalPeco Electric) LLC, and PacifiCorp, d.b.a. Pacific Power are exempt from submitting matinee pricing tariff pilot proposals.

8. This proceeding remains open.

This order is effective today.

Dated _____, at Long Beach, California.